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=> s ferulase and gramineae

L1 0 FERULASE AND GRAMINAE

=> s ferulase and graminaceae

L2 0 FERULASE AND GRAMINACEAE

=> s ferulic(w)acid and graminaceae

L3 3 FERULIC(W) ACID AND GRAMINACEAE

=> d l3 1-3 ibib ab

L3 ANSWER 1 OF 3 BIOSIS COPYRIGHT 2004 BIOLOGICAL ABSTRACTS INC. on STN
ACCESSION NUMBER: 1993:146118 BIOSIS
DOCUMENT NUMBER: PREV199395078918
TITLE: Lignin-feruloyl ester cross-links in grasses: Part 2: Model compound syntheses.
AUTHOR(S): Ralph, John [Reprint author]; Helm, Richard F.; Quideau, Stephane
CORPORATE SOURCE: Dep. Forestry, Univ. Wisconsin-Madison, USA
SOURCE: Journal of the Chemical Society Perkin Transactions I, (1992) Vol. 0, No. 21, pp. 2971-2980.
CODEN: JCPRB4. ISSN: 0300-922X.
DOCUMENT TYPE: Article
LANGUAGE: English
ENTRY DATE: Entered STN: 16 Mar 1993
Last Updated on STN: 16 May 1993
AB Five compounds which model the various structures produced when feruloyl esters are copolymerized into lignins have been synthesized. These models represent the lignin-feruloyl-polysaccharide structures which have been theorized to exist in the ***Graminaceae*** but have yet to be isolated. Complete spectroscopic characterization provides important chemical-shift information to facilitate the identification of these linkages in native lignins and synthetic DHP polymers. Methyl

Glycoside III, a .beta.-aryl ether model was similarly prepd. The peracetate of glycoside IV, a compd. which models the attack of lignin radicals on the .beta.-position of the feruloyl ester, was prepd. by elimination of the .beta.-proton from the quinone methide derived from Et 3-hydroxy-3-(4-hydroxy-3-methoxyphenyl)-2-(2-methoxyphenoxy)propanoate. A model for .beta.-5 coupled products, V, was obtained as a cis/trans mixt. in 55% yield by radical coupling of II using silver(I) oxide. Finally, the crossed .beta.-.beta. compd. VI was obtained, from radical coupling of coniferyl alc. and ***ferulic*** ***acid*** via AgO.

L3 ANSWER 3 OF 3 CAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 1991:118793 CAPLUS

DOCUMENT NUMBER: 114:118793

TITLE: Cross-linking of cell wall phenolic arabinoxylans in graminaceous plants

AUTHOR(S): Hartley, Roy D.; Morrison, W. Herbert, III; Himmelsbach, David S.; Borneman, William S.

CORPORATE SOURCE: Richard B. Russell Agric. Res. Cent., Agric. Res. Serv., Athens, GA, 30613, USA

SOURCE: Phytochemistry (1990), 29(12), 3705-9
CODEN: PYTCAS; ISSN: 0031-9422

DOCUMENT TYPE: Journal

LANGUAGE: English

AB O-[5-O-((E)-p-Coumaroyl)-.alpha.-L-arabinofuranosyl]-(1 .fwdarw. 3)-O-.beta.-D-xylopyranosyl-(1 .fwdarw. 4)-D-xylopyranose (PAXX) and O-[5-O-((E)-feruloyl)-.alpha.-L-arabinofuranosyl]-(1 .fwdarw. 3)-O-.beta.-D-xylopyranosyl-(1 .fwdarw. 4)-D-xylopyranose (FAXX) were isolated from cell walls of Cynodon dactylon by treatment with cell wall carboxylases. The esters were exposed to light for several days. The p-coumaric acid (P) component of PAXX dimerized to 4,4'-dihydroxy-.alpha.-truxillic acid (Mr twice P, i.e. a PP type stereodimer) and to other PP type dimers esterified to oligosaccharide. FAXX behaved in a similar manner to PAXX; its ***ferulic*** ***acid*** (F) component dimerized to esterified 4,4'-dihydroxy-3,3'-dimethoxy-.alpha.-truxillic acid (Mr twice F, i.e. and FF type stereodimer) plus other esterified FF type dimers. A mixt. of PAXX plus FAXX gave esterified 4,4'-dihydroxy-3-methoxy-.alpha.-truxillic acid (Mr P plus F, i.e. a PF type stereodimer) as the major product. It seems likely that similar dimerization reactions occur in the cell walls of the growing graminaceous plant. Such a mechanism could be involved in crosslinking adjacent p-coumaroyl and feruloyl groups in arabinoxylans leading to increased cell wall rigidity and decreased biodegradability of the wall polysaccharides.

=> s ferulic(w)acid(w)esterase and specificity

L4 38 FERULIC(W) ACID(W) ESTERASE AND SPECIFICITY

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